INSTALLATION INSTRUCTIONS CE 0088

for the

Model L Wall / Cabinet Mounted Operating Light

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INSTALLATION INSTRUCTIONS
for the
Knight Model L
Wall / Cabinet Mounted
Operating Light

SECTION I - GENERAL INFORMATION

1. DESCRIPTION

The Knight Model "L" Wall/Cabinet Mounted Light consists of a light head and arm assembly and a wall or cabinet mount assembly. This light is designed to be mounted to a wall, cabinet or any vertical surface with substantial support structure. (See Figure 1).

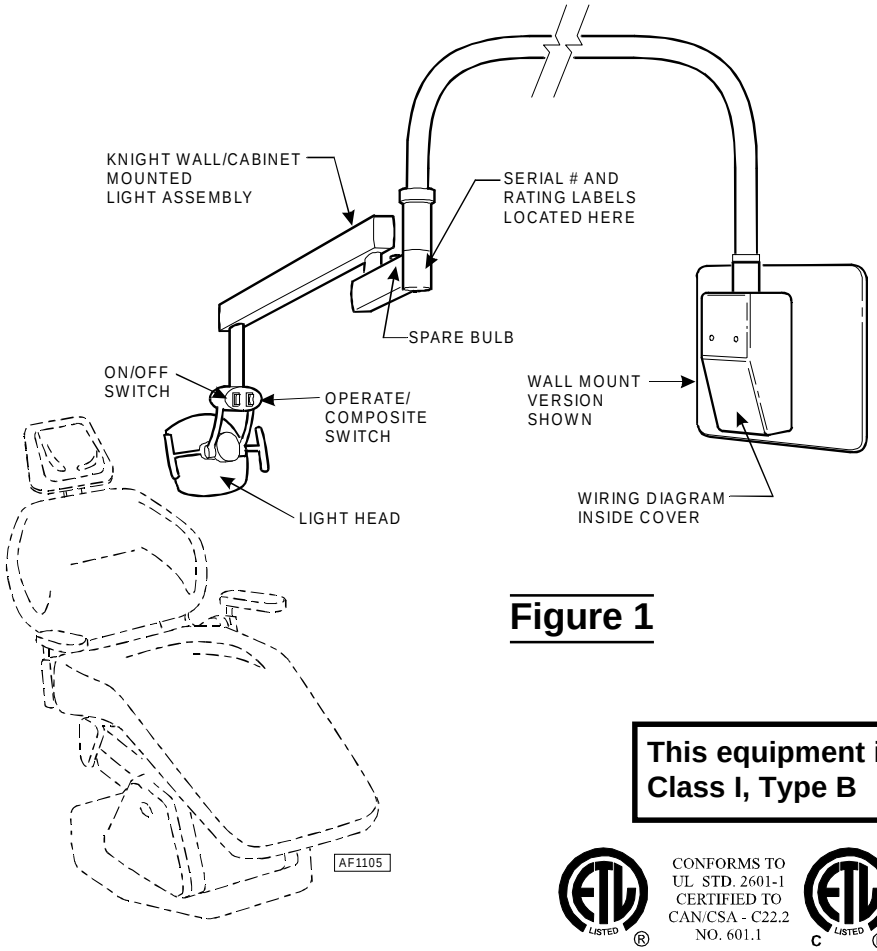

Figure 1

This equipment is rated Class I, Type B

CONFORMS TO UL STD. 2601-1 CERTIFIED TO CAN/CSA - C22.2 NO. 601.1

SECTION I - GENERAL INFORMATION (CONT)

2. ELECTRICAL REQUIREMENTS:

Before connecting the line cord to an appropriate receptacle, make certain that the circuit is protected by a 15-amp circuit breaker for 120-VAC models, or a 7.5-amp breaker for 240-VAC models. Ensure that all wiring is grounded and all electrical codes are observed.

WARNING - Potential shock hazard with possible personal injury. To reduce shock hazard, observe all electrical codes.

3. WIRING DIAGRAM:

The wiring diagram for the light is located on the inside of the post mount cover (See Figure 1).

4. UNPACKING THE CARTONS

The light is shipped in two cartons containing the following items:

Large Carton

- Light arm and head assembly
- Small hardware bag
- Technical publication folder containing; Installation Instructions (this manual), Operator's Manual, Pre-installation manual and Warranty Card

Small Carton

- Wall or Cabinet mount assembly
- Small hardware bag

Check for signs of damage to either the carton or to the contents and that all items listed above are present. If there is any evidence of damage due to shipping or if any of the items is missing from the carton, notify the shipper at once. Be careful not to discard any small parts or instruction sheets with the packing material.

SECTION I - GENERAL INFORMATION (CONT)

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SECTION II - INSTALLATION

1. INSTALLING THE WALL MOUNT ASSEMBLY

NOTE

NOTE: Please consider the following before mounting the light:

1) **LOCATION: Carefully choose a location so the light will not interfere with procedures or patient access.**
2) **STRUCTURE: Make sure the light will be mounted to vertical wall studs or other substantial support structure.**
3) **POWER SOURCE: This light may plugged in a wall outlet or wired to an appropriate power source. Please consider the locations of electrical outlets before installing.**

DANGER

DANGER: Turn off all electrical power at the power source before making primary electrical connections.

1. Remove wall mount cover and the post mount cover from the mounting frame (See Figure 2).
2. Mount and level the frame to the wall by using the eight woodscrews provided.
3. Replace the wall mount cover.

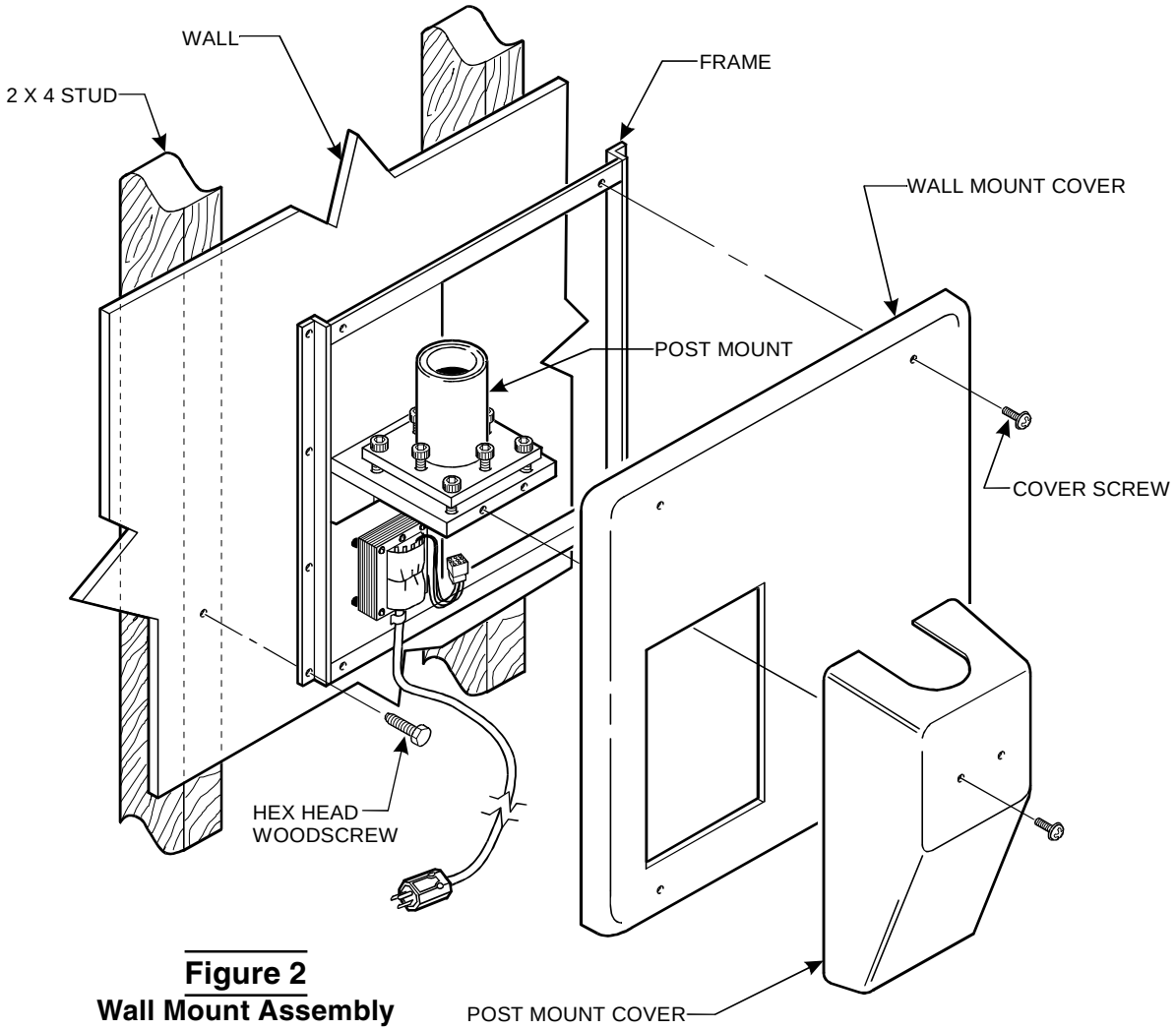


Figure 2
Wall Mount Assembly

SECTION II - INSTALLATION (CONT)

2. INSTALLING THE CABINET MOUNT ASSEMBLY

NOTE: Please consider the following before mounting the light:

1) **LOCATION: Carefully choose a location so the light will not interfere with procedures or patient access.**
2) **STRUCTURE: Make sure the light will be mounted to substantial support structure.**
3) **POWER SOURCE: This light may plugged in a wall outlet or wired to an appropriate power source. Please consider the locations of electrical outlets before installing.**

DANGER: Turn off all electrical power at the power source before making primary electrical connections.

1. Loosen two thumb screws and remove the post mount cover from the mounting frame (See Figure 3).

2. Mount and level the frame to the cabinet by using the four hex bolts, small washers, large washers and nuts provided.

3. Replace the wall post mount cover.

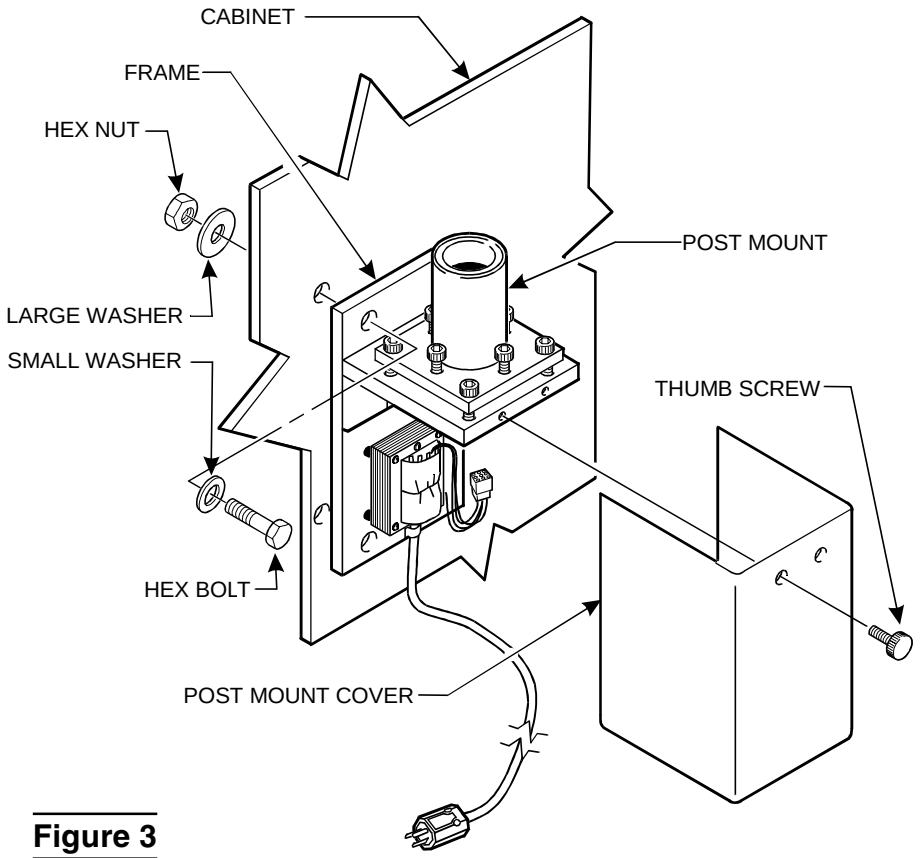


Figure 3
Cabinet Mount Assembly

SECTION II - INSTALLATION (CONT)

3. INSTALLING THE LIGHT HEAD AND ARM ASSEMBLY

After the wall mount frame and cover is securely in place, install the wall mounted light head and arm assembly using the following procedure:

1. Insert the light cable with the 9 pin plug down through the post mount assembly and bearing and slide the light head and arm assembly into the bearing in the post mount (See Figure 4).

2. Coil extra light cable length and tie with the tie wrap provided.

2. Plug the 9 pin plug into the 9 pin connector at the transformer.

3. Remove the packing materials, tape, etc., from the light head and discard them.

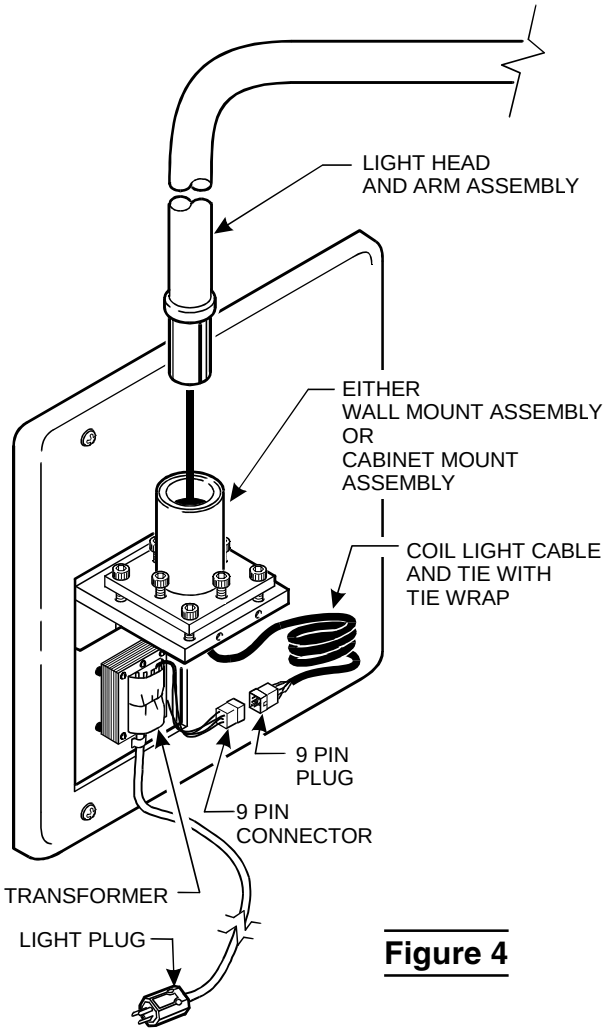


Figure 4

4. LEVELING THE LIGHT

1. Place a spirit level on the light arm (See Figure 5).

2. Using a 5/16 allen wrench , loosen or tighten the four leveling screws until the light is level.

3. Tighten the mount screws to secure the light in position.

4. Replace the post mount cover and plug the light into an outlet.

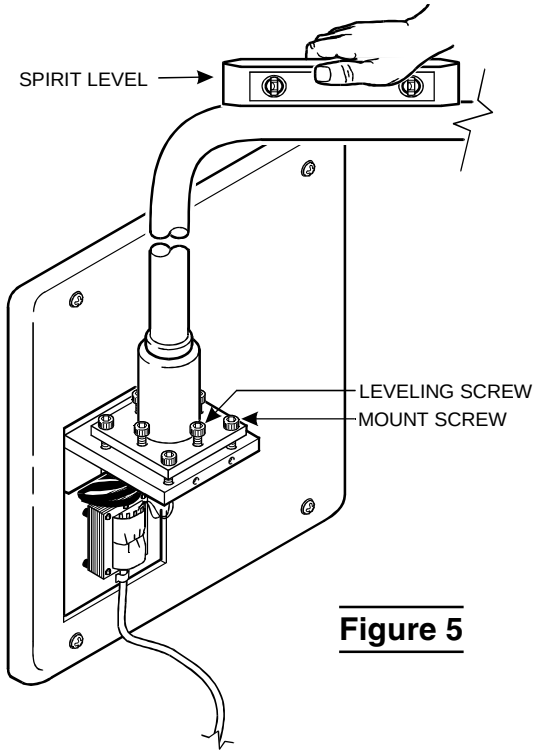


Figure 5

SECTION II - INSTALLATION (CONT)

5. SETTING STOP ROTATION

The long arm wall/ceiling mounted light rotates at each end of the long arm (See Figure 6). The rotation point nearest the light head (Rotation point #2) has a stop rotation device that must be set during installation. Use the following procedure:

1. Position the long arm 90^0 to the wall or cabinet (See Figure 6).

2. Rotate the light arm and head assembly,at rotation point # 2, in one direction until the mounting post begins to rotate.

3. Continue to rotate the assembly until the desired stop position is reached.

CAUTION: When setting the mounting post stop rotation, do not rotate the light more than 360^0. This may cause the light cable to become twisted.

4. Position the set screw in the retaining collar directly over the mounting pin and tighten in place. This will set the stop rotation in this direction (See Figure 7).

5. Rotate the light in the opposite direction. The light should rotate approx 300^0 before reaching the second stop position (See Figure 6).

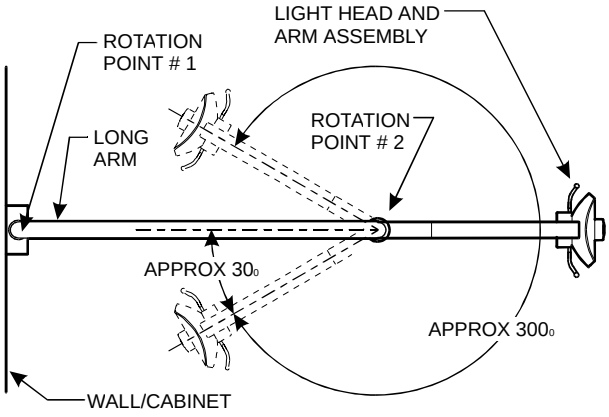


Figure 6

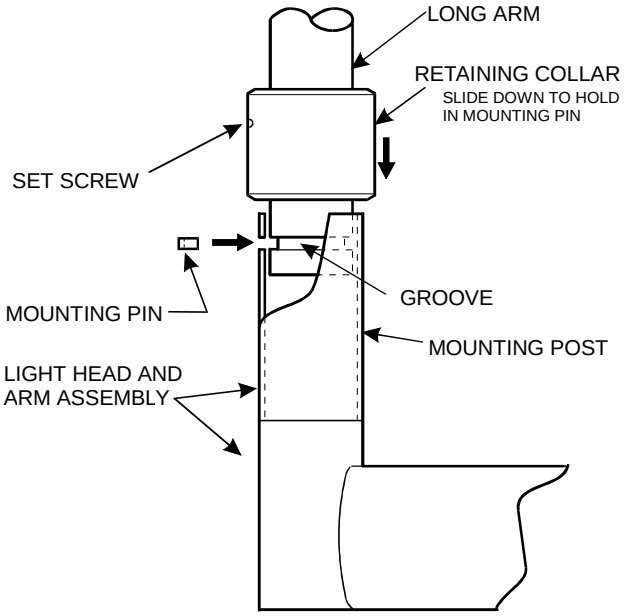


Figure 7

SECTION III - OPERATIONAL CHECKS

When the installation is complete, certain operational checks should be made, as follows:

1. OPERATE/COMPOSITE SWITCH

This switch offers the operator the following choice of functions (Refer to Figure 8):

1. OPERATE POSITION: This position is for normal operation and allows the light intensity to be adjusted by the intensity switch (High, Medium and Low Intensity).

2. COMPOSITE POSITION: This position provides the operator with reduced color temperature lighting when working with photosensitive composites.

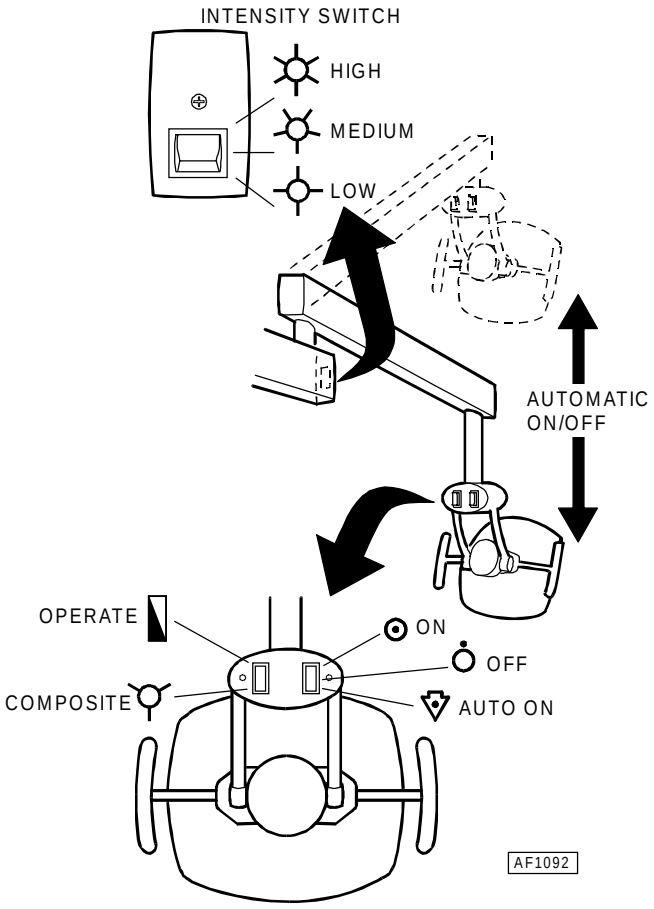


Figure 8

2. THREE POSITION SWITCH

The three position switch is located on the back of the light head. This switch provides three functions, On, Off and Auto On/Off (Refer to Figure 8).

Automatic ON/OFF Position

1. Push the switch to the Auto On Position.
2. Lift the light up until it shuts off. As the light is lifted up and out of the operating position, a limit switch in the arm automatically turns the light off.
3 Lower the light into operating position. The light should come on as it is lowered.

Manual ON Position and OFF position

These two positions override the auto switch and turn the light off or on.

3. INTENSITY SWITCH

The intensity switch is located at the end of the fixed arm. This switch controls the light intensity and offers three intensity settings (High, Medium, Low). Operate the switch to make sure it is functioning properly (Refer to Figure 8).

SECTION IV - ADJUSTMENTS

All Model "L" Lights are pre-set at the factory and should not require any adjustment. However, if adjustment is desired, read and follow the directions in this section carefully.

1. LIGHT FOCUS ADJUSTMENT

This adjustment affects the sharpness of the light pattern at a specified distance. To set the focus, use the following procedure:

1. Position the light 21 to 39 inches (53 to 99 cm) from a target (wall, chair back, etc.) and turn on the light.
2. Insert the 9/64" allen wrench provided into the hole in the back cover of the light to reach the focus adjusting screw inside (See Figure 9).
3. Loosen or tighten the screw until the desired pattern is obtained. We suggest a nominal pattern size of 3 x 8 inches (8 x 20cm), oval in shape, with feathered edges.

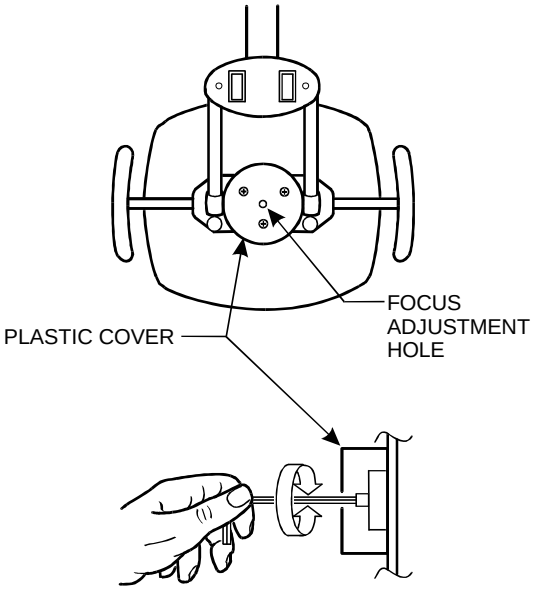
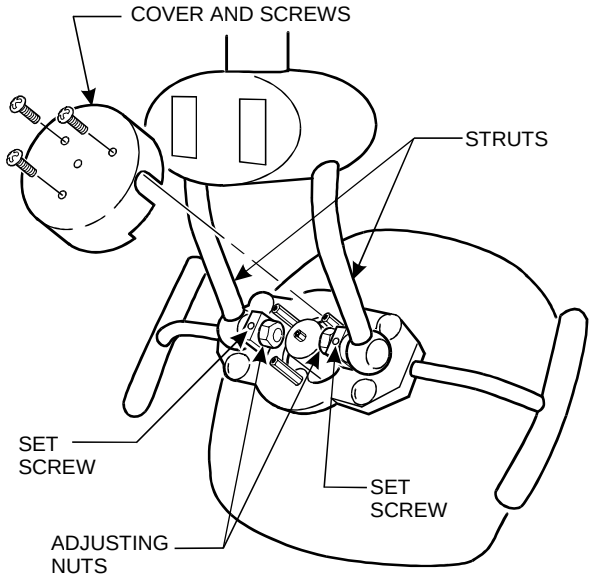


Figure 9

2. LIGHT HEAD ROTATION ADJUSTMENT

The light head rotates between two struts and is held in place with special hardware. This hardware provides the necessary tension to hold the light in any position it is moved to. If the tension ever needs to be increased, please use the following procedure:

1. Remove the back cover and three screws (See Figure 10).
2. Loosen each set screw one turn maximum, using an allen wrench.
3. Using an open end wrench, tighten the adjusting nuts on each side 1/8 turn. Check the movement of the light head. Repeat until the tension is satisfactory.
4. Retighten the set screws and replace the back cover and screws.



SOME DETAILS REMOVED FOR CLARITY

Figure 10

SECTION IV - ADJUSTMENTS (CONT)

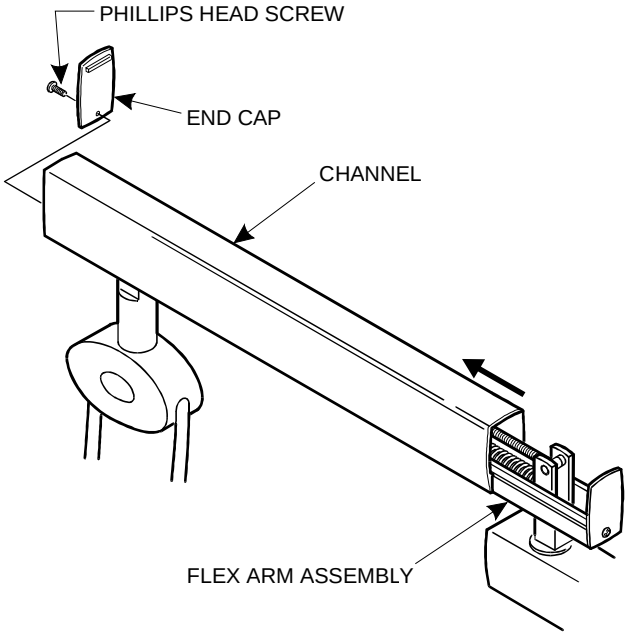


Figure 11

3. FLEX ARM TENSION ADJUSTMENT

This adjustment affects the movement of the light head and arm as follows:

- **Proper adjustment** - When the flex arm tension is adjusted properly, the light can be easily moved into the desired position and will stay in this position without any downward drift.
- **Not enough tension** - If the tension on the compression spring is too little, the light may drift out of position as it is pulled down by its own weight.
- **Too much tension** - If the tension on the compression spring is too great, the arm will feel stiff and be difficult to position. The light head and arm assembly may even drift upward because of the excessive tension.

Use the following procedure to adjust the flex arm tension:

1. To expose the interior of the flex arm, remove the end cap and screw and slide the channel off the assembly (See Figure 11).

2. Tighten or loosen the nut on the threaded rod to increase or decrease the tension on the compression spring (See Figure 12).

3. Slide the channel back on the flex arm and replace the end cap and screw.

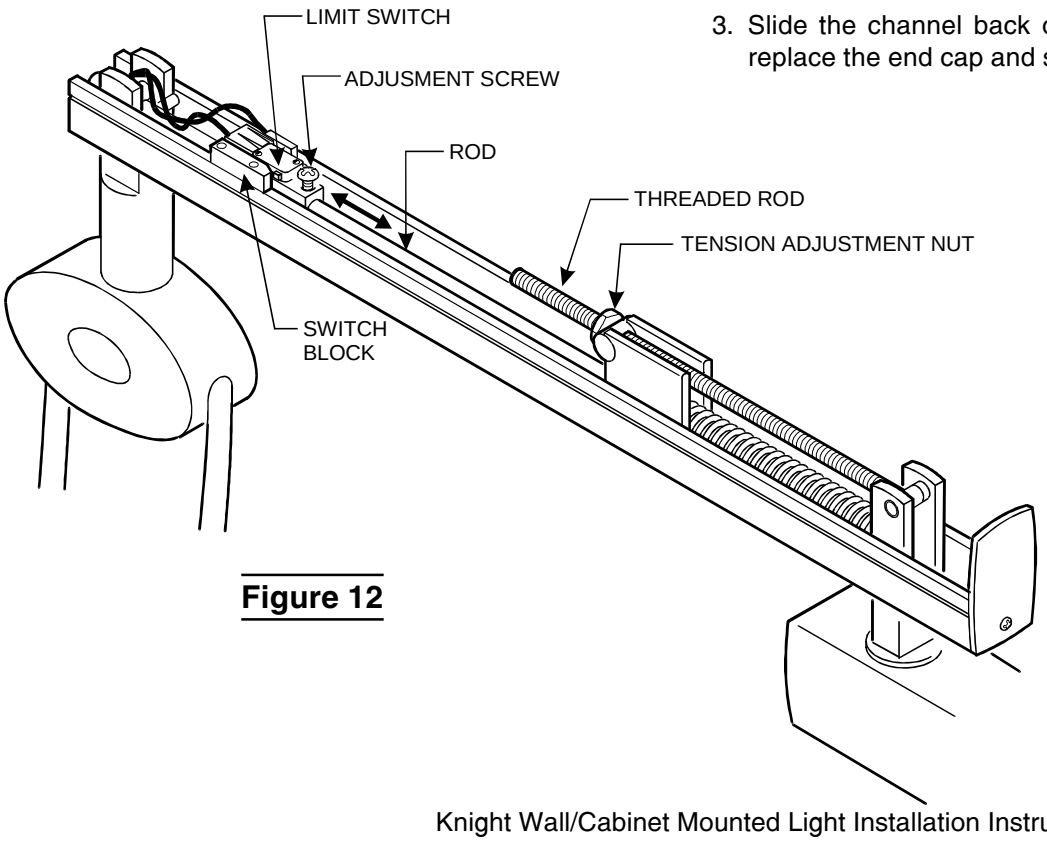


Figure 12

SECTION IV - ADJUSTMENTS (CONT)

4. AUTOMATIC ON/OFF ADJUSTMENT

Turn the switch on the back of the light head to Auto On. As the light head and arm are moved up and down an adjustable limit switch will turn the light off and on automatically. Use the following procedure to adjust this function:

1. To expose the interior of the flex arm, remove the end cap and screw and slide the channel off the assembly (See Figure 11).

2. Raise or lower the light head and arm assembly to the position where the operator would like the automatic on/off to be activated.

3. Loosen the adjustment screw and slide the limit switch along the rod until it makes contact with the switch block and the light turns OFF (See Figure 12).

4. Tighten the adjustment screw. Slide the channel back on the flex arm and replace the end cap and screw.

SECTION V - BULB REPLACEMENT

All Model "L" light heads are pre-assembled at the factory with the bulb and shields in place. If it becomes necessary to replace the bulb during installation, please use the following procedure:

WARNING: The light bulb operates at extreme high temperatures. Do not attempt to remove the bulb until it has cooled for at least 2 minutes after the light has been turned off.

1. Remove the lamp shield and reflector cover by pushing in and turning the lamp shield **counter clockwise** (See Figure 13).

2. Remove the bulb by pulling straight out (See Figure 14).

3. To install the new bulb, align the contact pins with the socket holes and press the bulb in firmly .

CAUTION: Install the bulb without removing its protective plastic cover (See Figure 15). Finger marks left on the bulb glass during installation will reduce the bulb life. If the bulb is accidentally handled, wipe it clean immediately with denatured alcohol.

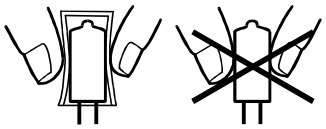


Figure 15

4. Place the reflector cover in position over the reflector (See Figure 13). Insert the lamp shield through the hole in the reflector cover and onto the socket holder (make sure to align the locking tabs). Push in and turn the lamp shield approximately 1/8-turn **clockwise** to lock in place.

WARNING: Do not operate the light without the plastic reflector cover in place. Operating the light without the cover could result in personal injury.

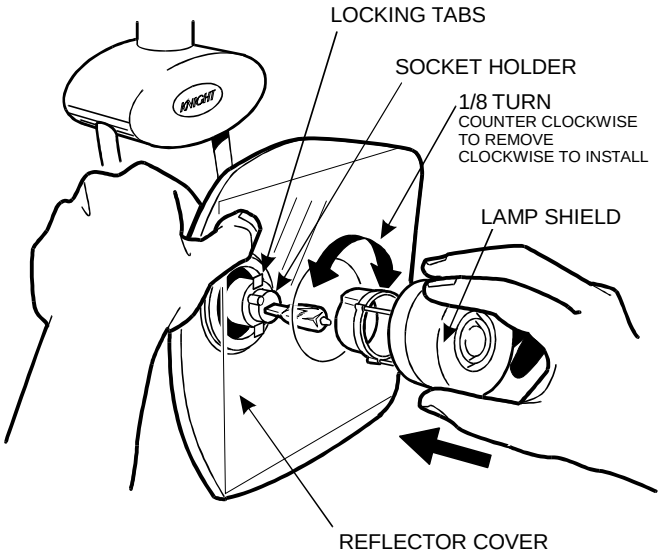


Figure 13

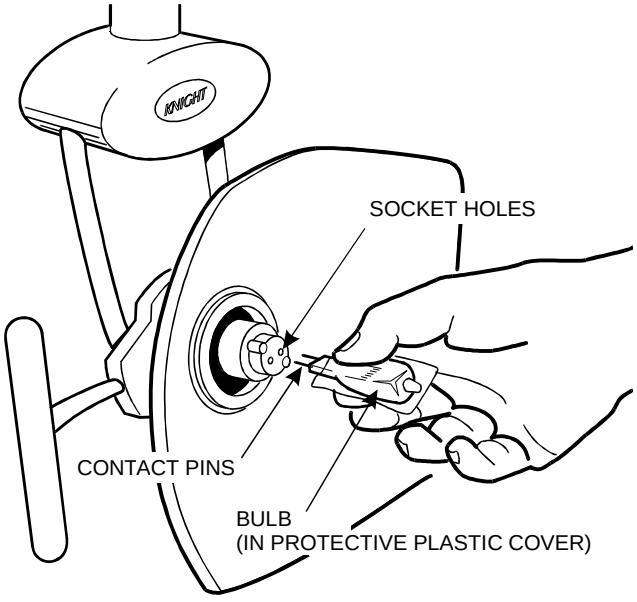


Figure 14

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SECTION VI - FINAL CHECK LIST

When all the assembly and installation procedures are completed, the light should be checked out in accordance with the following check list to ensure that assembly is complete and that all controls function properly.

- ☐ Check all switches for proper operation.
- ☐ Check the complete assembly to make sure it is level and plumb.
- ☐ Check the complete assembly to make sure it is stable when the light arm is extended to its extremes.
- ☐ Check the light arm and light head assembly for smooth and unobstructed movement.
- ☐ Be sure that all optional equipment has been installed.
- ☐ Check that all shipping tape and other packaging materials have been removed and disposed of.
- ☐ Make sure that the light has been cleaned and that all dirt and finger prints have been removed.
- ☐ Be sure the person who will operate the light receives the operators manual and any other appropriate information or instructions.

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DECLARATION OF CONFORMITY

MIDMARK CORPORATION

Midmark Corporation declares that SW and S-21 Dental Units conforms to the applicable requirements of the Medical Device Directive 93/42/EEC, Annex V and VII.

Serial Numbers: UA1278, UW01032, UC0971, and UK0148 to present.

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TPW1768 Rev. C (12/00)

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